



# HIGH DYNAMIC RANGE IMAGERY FOR THE SUPERCAM

*Imaging with limited processing and transmission*

## Avantages technologiques

### Extension of the dynamic of an image and high SNR

The invention can be used to obtain a good quality image (high signal-to-noise ratio whilst maintaining a good dynamic).

### Limits on-board processing.

The invention offers a «real time» onboard processing capacity and therefore requires very few processing resources.

### Limits transmission

2 to 7 images are acquired by the invention and the function used to obtain a single image ensures linearity is maintained between images. Data associated with these images are therefore sent as a single image.

## Synthèse de l'invention

Within the SUPERCAM context, the invention ensures the capture of a good image whilst respecting the mission constraints: minimal onboard processing and sending a single image to limit transmission.

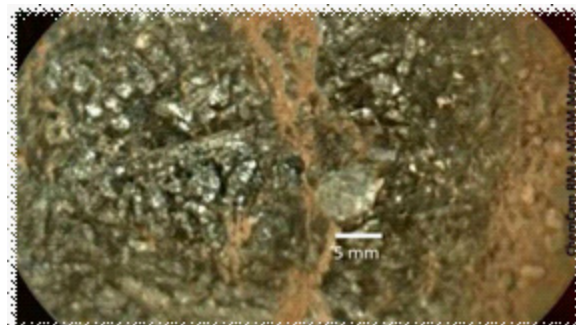
SUPERCAM (ChemCam's successor) will equip the Mars Science Laboratory 2020 (Curiosity's successor).

## Potential applications

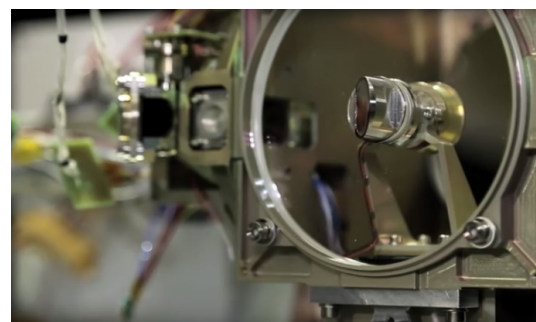
### Drones

Diminishes the impact of the camera on the battery. Invention adapted to essentially immobile landscapes.

### All types of Rovers



Type of image expected from SuperCam



Optical instrument: SUPERCAM

## Bénéfices commerciaux

High quality image

High signal-to-noise ratio (SNR)

Good dynamic Processing and transmission requirements

A single image sent (due to HDR)

Simplified processing

Potential extension of battery life

Real-time processing capacity possible depending on the system's processing capacity

*Invention brevetée disponible sous licence*